(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 137 880**
A2

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **83307293.7**

(22) Date of filing: **30.11.83**

(51) Int. Cl.⁴: **H 01 B 7/22**; H 01 B 13/06

(30) Priority: **16.09.83 US 532708**

(43) Date of publication of application: **24.04.85 Bulletin 85/17**

(84) Designated Contracting States: **AT BE CH DE FR GB IT LI LU NL SE**

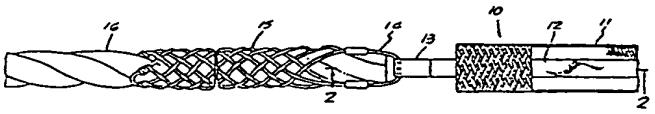
(71) Applicant: **Plummer, Walter A. Jr., 3546 Crownridge Drive, Sherman Oaks California 91403 (US)**

(72) Inventor: **Plummer, Walter A. Jr., 3546 Crownridge Drive, Sherman Oaks California 91403 (US)**

(74) Representative: **Maguire, Peter Albert et al, Fitzpatricks Kern House 61/62 Lincoln's Inn Fields, London WC2B 6EX (GB)**

(54) Braided sleeving.

(57) The invention relates to expandable-contractable braides sleeving having a pull cord extending lengthwise of its interior one end of which can be attached to an object to be enshrouded while the sleeving is being assembled thereover. The pull cord may comprise a strip of high strength material imprintable with indicia.



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TITLE: BRAIDED SLEEVING

The invention relates to braided sleeving.

Braided sleeving is utilized in a wide variety of designs and patterns to enshroud elongate objects to serve many different functions. Such sleeving is readily expanded in girth to facilitate the assembly operation and to accommodate a range of different cross sectional sizes of objects to be enshrouded, the sleeving being thereafter contractable into a snug fit with the object. However, the assembly operation is greatly handicapped owing to the need to apply axial compressive forces to the sleeving to expand it while at the same time applying tension to advance it over the object. It is at once apparent that axial compression of the sleeving to expand it involves the need to push the forward end rearwardly while at the same time applying a pulling force to advance it over the object being enshrouded.

The aforementioned problems associated with the assembly of braided sleeving over elongate objects is circumvented by the present invention in which the sleeving, as manufactured, is provided with a pull cord the advance end of which is securable about the object whereby a pulling force applied to the other end of the pull cord is effective to pull the object into the sleeving. In consequence the assembly of the sleeving to the object being enshrouded is greatly expedited. Preferably, but not necessarily, the pull cord comprises a tape to provide maximum strength with minimum thickness.

Accordingly, it is a primary object of this invention to provide an improved braided sleeving product and method of assembling same over an elongate object to be enshrouded.

Another object of the invention is the provision of expandable-contractable braided sleeving with a pull

cord installed interiorly thereof and a method of utilizing the pull cord to expedite assembly of the sleeving over an object.

Another object of the invention is the provision of expandable-contractable braided sleeving having a pull cord strip extending loosely therealong imprintable with indicia.

These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawing to which they relate.

Referring now to the drawing in which a preferred embodiment of the invention is illustrated:

Figure 1 is a longitudinal view showing one end of the invention braided tubing with the pull cord secured to one end of cabling or the like to be enshrouded by the sleeving; and

Figure 2 is a cross sectional view taken along line 2-2 on Figure 1.

Referring to Figures 1 and 2, there is shown an illustrative embodiment of the invention braided tubing product designated generally 10 comprising an expandable-contractable braided sleeve 11 of any suitable construction well known to persons skilled in that art and a pull cord 12 extending the full length of the sleeving as manufactured. The opposite ends of cord 12 preferably extend beyond the ends of the sleeving in order that one end may be attached to the object to be enshrouded and that the other end can be attached to a handgrip or other means before applying tension to the cord. As herein shown by way of example, the advance end 13 of cord 12 is looped about the bail 14 of an expandable-contractable cable gripping device 15. Such grips are available in a wide range of sizes suitable for installation over the end of an object to

be enshrouded such as the cabling of twisted conductors 16. Although conductors are there shown, it will be understood that these represent any of a wide range of objects which require protection or whose appearance would be enhanced by a sheath of braided sleeving.

Preferably but not necessarily, pull cord 12 comprises a strip of suitable high strength inexpensive material. One suitable material is available from duPont under the trade name Tyvec. This is a non-woven fabric of randomly arranged high strength plastics fibers readily receptive of printed indicia. The material is light weight, very flexible and easily knotted or bonded to itself or to other material. Accordingly, end 13 of the pull cord strip can be threaded through the bail 14 of gripping device 15 and firmly secured thereto by knotting, bonding, stapling or the like. Alternatively, end 13 may be secured to bail 14 by a pair of self-gripping rings well known to persons skilled in that art.

The manner of using my improved braided sleeving will be readily apparent from the foregoing description of its features. One end, as end 13 of the pull cord 12, is firmly secured to the object 16 to be enshrouded. If cabling 16 is to be sheathed, a gripping device 15 is advantageously employed but any suitable anchorage may be used. The operator then proceeds to apply tension to the remote end of the pull cord while applying longitudinal compression force to the advance end of sleeve 11 effective to expand the sleeve girthwise to a diameter greater than the conductors 16. Thereupon the sleeving is easily telescoped over the conductors without impediment. When a desired length of the sleeving has been assembled in this manner, one end is secured to the conductors in the usual manner well known in this art and the remainder of the sleeving stretched out until firmly

contracted snugly against the conductors and the free end is then secured in place. Gripping device 15 is of course removed along with the pull cord.

It will be understood that it may be desirable and advantageous, particularly in connection with sleeving employed for larger or heavier cabling, cordage or the like, to provide an inexpensive light duty pull cord of sufficient strength to install a reusable substitute pull cord of requisite strength.

While the particular braided sleeving with pull cord herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiment of the invention and that no limitations are intended to the detail of construction or design herein shown other than as defined in the appended claims.

CLAIMS

1. Braided sleeving characterised by a pull cord (12) extending substantially the full length of the interior of the sleeving (11) with one end adapted to be anchored temporarily to the end of means (16) to be enshrouded by the sleeving whereby a pulling force applied to the other end of said pull cord (12) is effective to pull said means (16) into said braided sleeving (11).

2. Braided sleeving according to claim 1 characterised in that said pull cord (12) includes gripping means (15) securable to one end thereof and constructed and arranged to be readily and quickly assembled to one end of the means (16) while in use to pull said means (16) into said braided sleeving (11).

3. Braided sleeving according to claim 2 characterised in that said conductor gripping means (15) interconnecting said pull cord (12) and said means (16) embraces the end of said means (16) and serves to pilot and center the adjacent end of said means generally coaxially of said sleeving (11) while being pulled thereinto.

4. Braided sleeving characterised by the provision of pull cord means (12) extending along the interior of the sleeving (11), one end of said pull cord means (12) being securable to one end of an object (16) to facilitate the assembly of said sleeving about said object, and said pull cord means (12) being adapted to be placed in tension from the other end thereof and employed as a guide for said sleeving while being used to telescope said object and said sleeving into coaxial assembly.

5. Braided sleeving as defined in claim 4 characterised in that said pull cord means (12) is free of attachment to said sleeving (11) and is withdrawable from one end thereof after said sleeving

has been assembled about an object (16).

6. Braided sleeving as defined in claim 4 or claim 5 characterised by the provision of a length of braided sleeving (15) securable to one end of said pull cord means (12) and sized to telescope over one end of an object (16) and to grip the same firmly when contracted snugly about said one end of the object.

7. Braided sleeving as defined in any one of claims 4 to 6 characterised in that said pull cord (12) comprises high strength non-woven fabric material.

8. Braided sleeving as defined in claim 7 characterised in that said pull cord (12) comprises a strip of said non-woven fabric material imprintable with indicia.

9. A method of assembling braided sleeving over an elongate object characterised by attaching one end of a pull cord (12) to an object (16) to be enshrouded by said sleeving (11) which pull cord (12) extends lengthwise of the interior of said sleeving (11), and advancing the leading end portion of said sleeving rearwardly along said object as tension is applied to said pull cord to advance the object progressively into said sleeving.

10. The method defined in claim 9 characterised by the steps of providing said sleeving (11) with an inexpensive initial pull cord, attaching one end of said pull cord to a heavy duty pull cord, and utilizing said initial pull cord to install said heavy duty pull cord into said sleeving for use in lieu of said initial pull cord to advance said object (16) progressively into said sleeving (11).

11. The method defined in claim 9 or claim 10 characterised by the step of detaching said heavy duty pull cord from said object (16) after said sleeving (11) has been installed thereabout for subsequent reuse.

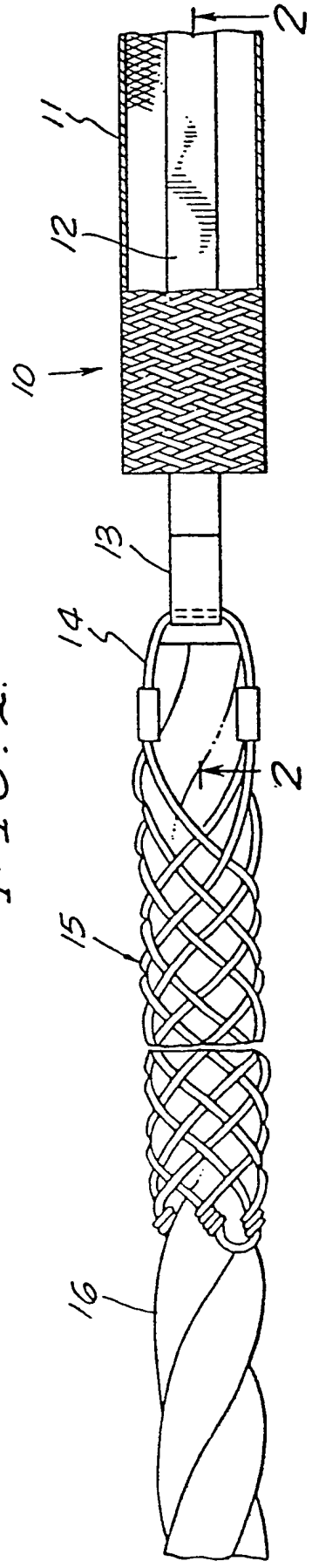

FIG. 1.

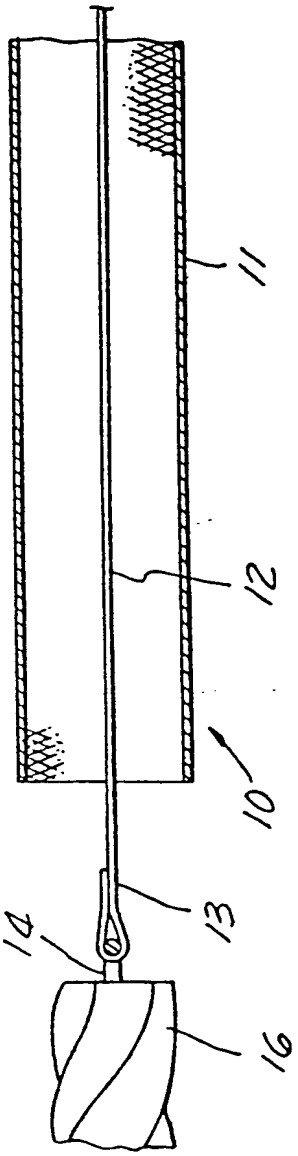

FIG. 2.